GENUINE PARTS

SATELLITE RADIO INSTALLATION INSTRUCTIONS

1. DESCRIPTION: SATELLITE RADIO SYSTEM

2. PART NUMBERS:

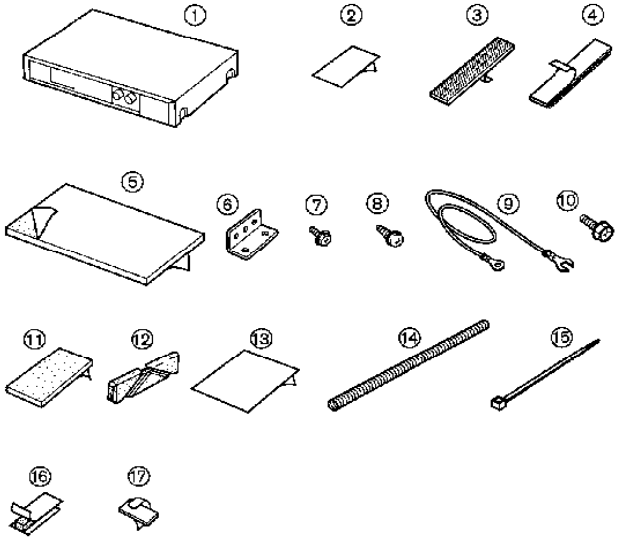
XM tuner kit	999U9-NV003
SIRIUS tuner kit	999U9-NV004
XM antenna kit	999U9-VQ008
SIRIUS antenna kit	999U9-VQ009
Sub Harness	999U9-EP000

3. MODEL APPLICATION: FX35 / FX45 (2003~)

4. TUNER KIT CONTENTS:

No.	Parts	Qty
1	Tuner	1
2	Black Tape	2
3	Velcro Tape (hook)	2
4	Velcro Tape (loop)	2
5	Double-Stick Foam Pad	1
6	L Bracket	2
7	M4 Machine Screw	4
8	5mm Tapping Screw	4
9	Ground Cable	1
10	6mm Tapping Screw	1
11	Sponge Tape	14
12	Edge Protector	1
13	Clear Tape	4
14	Corrugated Tube	1
15	Cable Tie	4
16	Butyl Gum	2
17	Cable Clamp	4

Parts View



⚠ CAUTION

- This can be a difficult and time consuming installation that may require the skill of the master technician who is familiar with electronics installation. Contact your regional DTS for additional information on installation support.
- Tuner unit, antenna, and antenna splitter must be same brand, XM or SIRIUS
- This is a universal installation kit so all parts may not be used.
- Re-installation of satellite radio antenna to be performed by an authorized dealer only.
- In the event the satellite radio antenna or antenna splitter needs to be re-installed, do not use the original mounting tape. Order the low profile antenna tape remount kit:

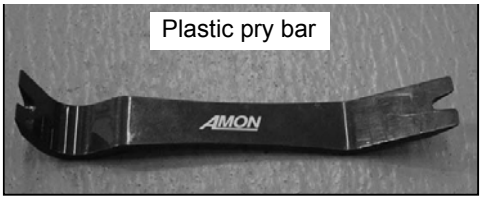
999U9-VQ010

- In the event the satellite radio antenna needs to be replaced, order the appropriate Satellite Antenna Kit.

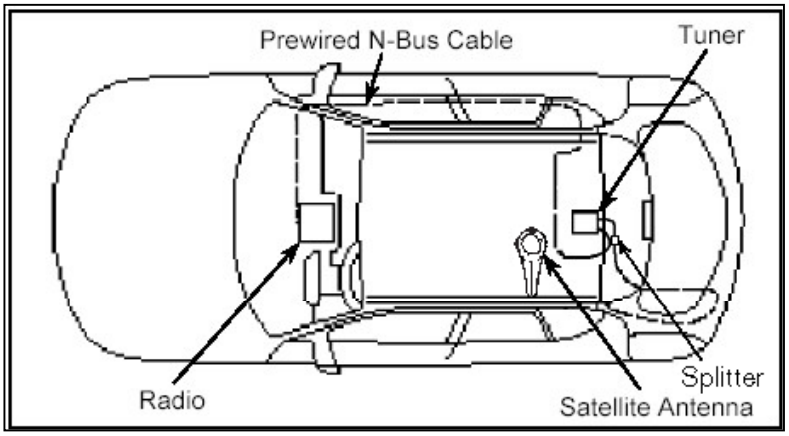
XM antenna	999U9-VQ014
SIRIUS antenna	999U9-VQ015
XM splitter	999U9-VQ004
SIRIUS splitter	999U9-VQ005

5. TOOL & MATERIAL REQUIRED:

1. Phillips screwdriver
2. Tape measure
3. Clip remover
4. Soapy water
5. Flat file
6. 50/50-alcohol/water solution
7. Electrical tape
8. Adhesive tape
9. Masking tape
10. Drill with 4mm (5/32") bit equipped with1cm (1/2") stop
11. Rustproof compound (Bitumen Wax, 999MP-9G001P or equivalent)
12. Plastic Pry bar (P/N J-46534 or equivalent)
13. Socket wrench with 10mm, 12mm sockets



6. INSTALLATION OUTLINE:



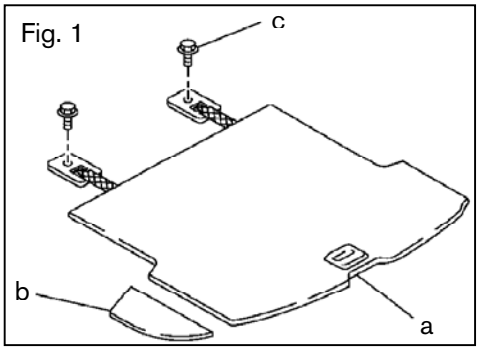
7. VEHICLE PREPARATION:

(1) Remove all items from cargo area, including cargo cover.
(2) Record the customer radio presets.

	1	2	3	4	5	6	7
AM							
AM2							
FM1							
FM2							
FM3							
ESN number located on tuner box:							

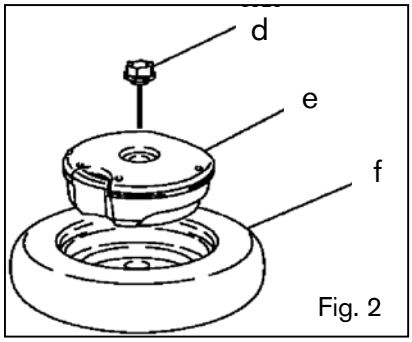
(3) Apply parking brake.
(4) Make sure that the shift lever is engaged in the "P" position.
(5) Open hatch
(6) Open the hood of the vehicle.
(7) Disconnect the battery negative terminal to prevent short circuits during installation.

8. ANTENNA INSTALLATION:



(1) Remove the two (2) 12mm screws (c) that secure the cargo area carpeted floor trim straps and remove the floor trim piece (a) and small drivers side corner trim piece (b). Fig. 1

(2) Fold rear seats forward.



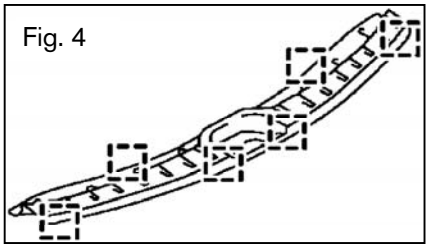
(3) Unscrew spare tire clamp (d). Lift and move subwoofer box (e), to sit on right rear seat back. Fig. 2

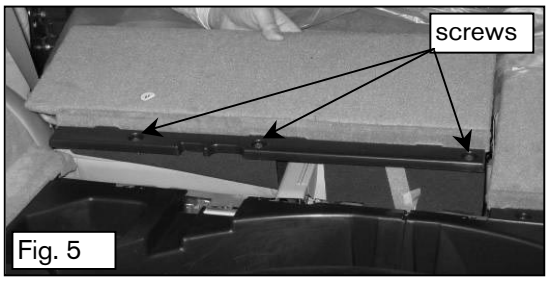
(4) Lift and remove the spare tire (f). Fig. 2

(5) Remove the cargo area entrance trim piece. Fig. 3

NOTE

This piece is held in place by means of six (6) metal clips. The position of these clips is called out by the squares on Fig. 4





(6) Remove three 10mm screws that secure cargo flap to the spare tire well. Remove the flap and set aside. Fig. 5

(7) Remove the jack.

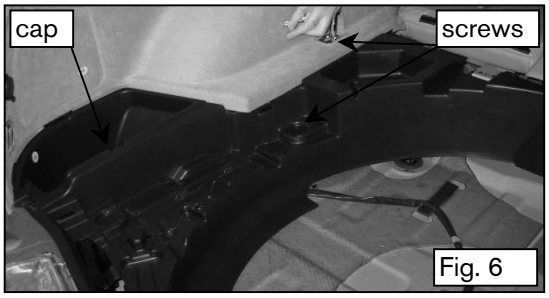


Fig. 6

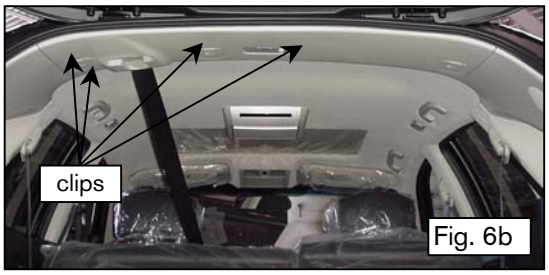


Fig. 6b

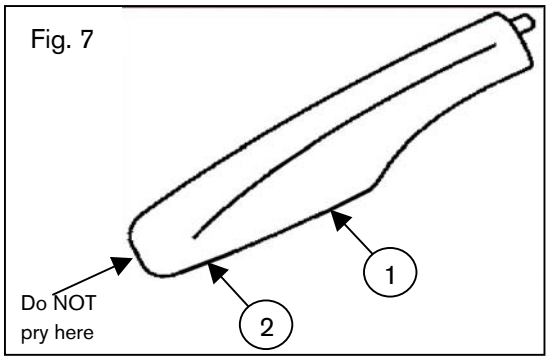


Fig. 7

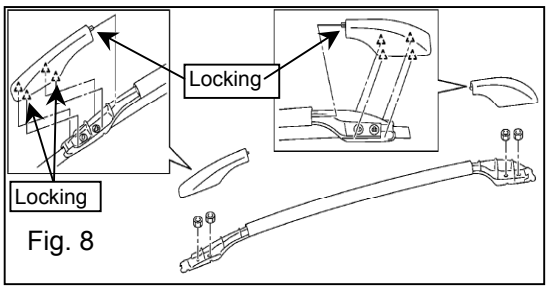


Fig. 8

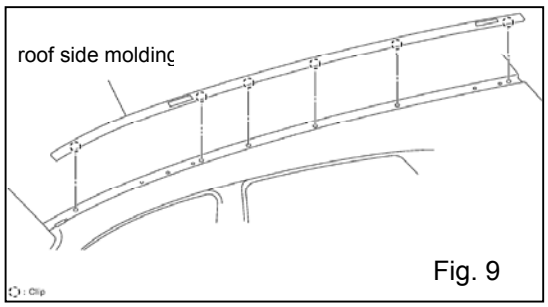


Fig. 9

(8) Remove the cargo tie down bracket, 10mm screw and bolt cap that secure the spare tire well in place. Fig. 6

(9) Lift and rotate the driver side spare tire well up and out of the cargo area.

(10) Remove weather-strip from the entire left side of the cargo opening, all the way to the bottom.

(11) Release the driver's side of the roof rear garnish assembly. Fig. 6b

⚠ CAUTION

Do not remove entire roof rear garnish assembly.

(12) Remove the finisher from the driver side cargo hatch hinge.

(13) If roof rack is present remove finisher caps from each end of the driver's side rail. Use plastic pry bar to release this piece. Pry at point 1 then move to point 2 but DO NOT pry the rear portion of this piece. Fig. 7

NOTE

Each of these pieces are held in position by four (4) small locking tabs. The tab locations are illustrated by the triangles in Fig. 8

⚠ CAUTION

Do NOT use PGF stick or flat blade driver to remove finisher caps. To avoid damaging the locking tabs use a plastic pry bar to pry outward then up to remove the cap. Use extreme care!

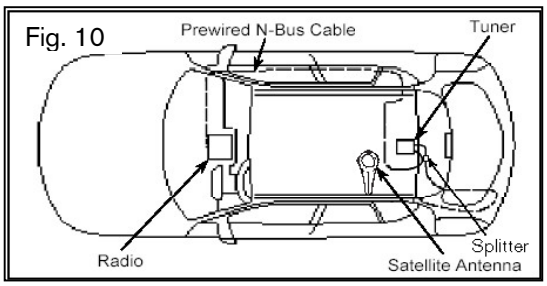
⚠ CAUTION

Do NOT break off locking pin on finisher cap during removal.

(14) If roof rail is present remove the four (4) 10mm nuts securing the rail to the vehicle.

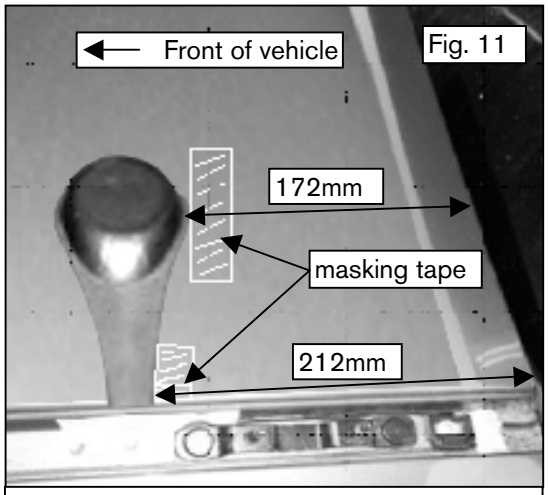
(15) Lift rail straight up to remove from mounting bolts.

(16) Using PGF stick or plastic pry bar remove roof side molding. This piece is held in place with six (6) clips. The clip locations are illustrated by circles in Fig. 9. If present, remove PGF protective film from rear of the roof where antenna is to be mounted.



(17) Place the antenna on the roof in the approximate position it will be mounted, see Fig. 10. Align the stiff portion of the tail to the edge of the rain gutter with the flexible portion of the tail extended into the gutter. The flexible portion of the tail will be aimed downwards and secured between the gutter edge and the gutter finisher.

(18) Proper alignment of the antenna tail is achieved by adjusting the position of the antenna so the small vertical portion of the antenna is contacting the gutter edge of the roof while maintaining the smallest visible gap between the antenna tail and edge of the roof line.



Driver side rain gutter

(19) Place a small piece of masking tape, perpendicular to rain gutter, a distance of 212mm (+2mm, -0mm) from the rear edge of the roof. Fig. 11

(20) Place second piece of masking tape 172mm (+2mm, -0mm) from rear edge of roof to portion of roof closest to the widest portion of the antenna head. Fig. 11

⚠ CAUTION

In case of ambient temperatures below 20 degrees C (70 degrees F), it is required to warm the tape and mounting surface with a heater to a minimum of 20 degrees C (70 degrees F).

(21) Use these two pieces of tape to position antenna by aligning the rear edge of the tail to the front edge of the tape. Fig. 11 Double check to ensure antenna is perpendicular to rain gutter.

(22) Unwrap the antenna cable.

⚠ CAUTION

• Do not let the antenna cable rest on floor; it may be stepped on and damaged.

• Do not kink the antenna cable.

(23) Bend the antenna wire to a right angle, directed towards the rear of the vehicle, at the point where they exit the flexible portion of the tail.

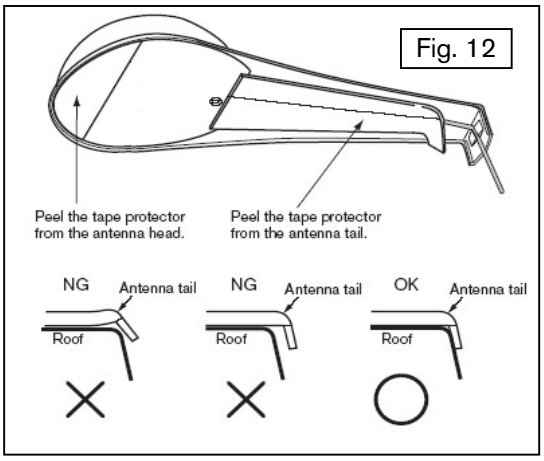


Fig. 12

(24) Carefully lift the antenna from the roof and clean the area where the antenna is to be mounted with a 50/50 alcohol/water solution. Put antenna back on roof.

⚠ CAUTION

Do not touch or contaminate the cleaned roof or adhesive tape on the antenna to prevent reduction of adhesive strength.

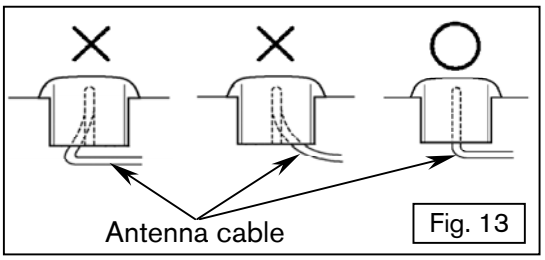


Fig. 13

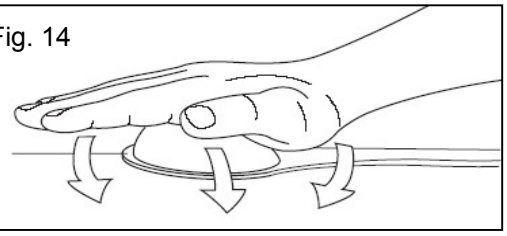
(25) Adjust the position of antenna such that the antenna tail and roof have maximum contact surface with minimum gap at edge of roofline. Fig. 12

(26) Peel tape protector from the antenna tail and lay down tail. Fig. 12

⚠ CAUTION

Make sure the antenna cable remains vertical under antenna tail flap. Fig. 13

Fig. 14



(27) Apply pressure along the length of the antenna tail to ensure proper adhesion.

(28) Apply 20 lbs. of downward force for 20 seconds while rocking hand back and forth across top of antenna to assure proper adhesion. Fig. 14

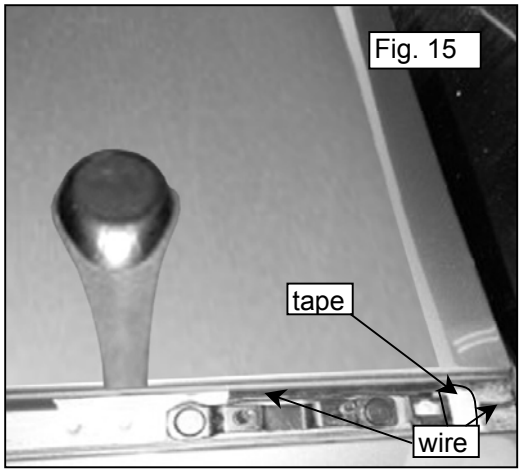
⚠ CAUTION

During antenna mounting process, make sure rubber dust seal "flares" outward while downward force is applied.

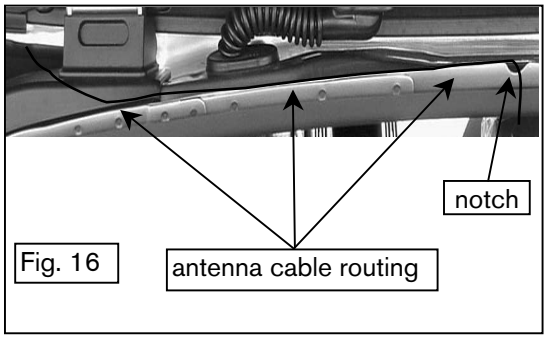
(29) Masking tape used for antenna alignment can carefully be removed from roof.

⚠ CAUTION

- Make sure the antenna cable remains vertical and centered under antenna tail flap in order to have maximum wetout surface on both sides of tape.
- Keep vehicle inside at least one hour after applying adhesive tape.
- Avoid works imposing pressure on the adhered area including car wash within 48 hours.



(30) Use masking tape to secure the wire into the rain gutter in one (1) place. Fig. 15



(31) Route the antenna cable in rain gutter then under the plastic trim cover towards the existing notch area located in the center of the cargo opening. Fig. 16

(32) Re-install roof side molding.

⚠ CAUTION

Ensure grommets on side molding align with clips on roof during re-installation of roof side molding.

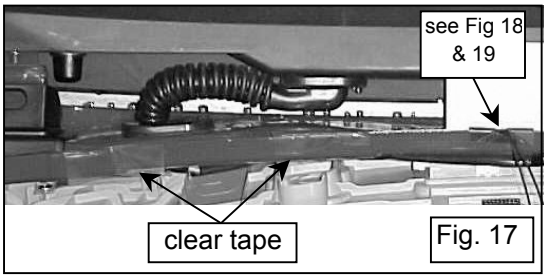


Fig. 17

(33) Reinstall roof rail, roof rail cap, and cross bar end covers. Apply torque: M6 screws 5.0 to 5.5 N-m (44.3 to 48.7 in-lbs) and M8 screws 6.0 to 6.5 N-m (53.1 to 57.5 in-lbs).

(34) Clean the gutter and the underside of it with 50/50 alcohol/water solution.

(35) Cut one (1) piece of clear tape in half then secure the antenna wire in front corner of gutter by placing tape over the wire then wrap excess tape over the top edge of the gutter. First piece of tape aligns with edge of hatch hinge. Second piece is centered between first piece and existing notch at center of vehicle. Fig. 17

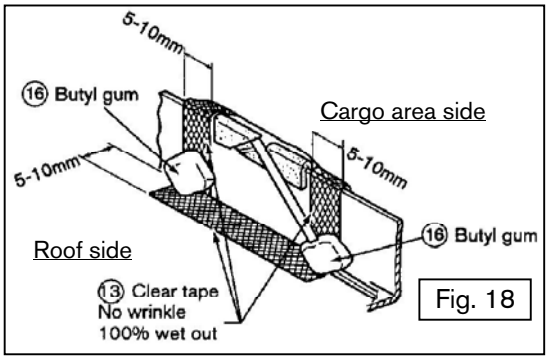


Fig. 18

NOTE

The following steps 36 to 42 are critical to water leak, therefore must be followed strictly.

(36) Place the edge protector over the existing notch.

(37) Use alcohol wipe included in kit to clean surrounding area before application of clear tape.

(38) Route the antenna cable over the edge protector by laying cable into the channel in the rubber.

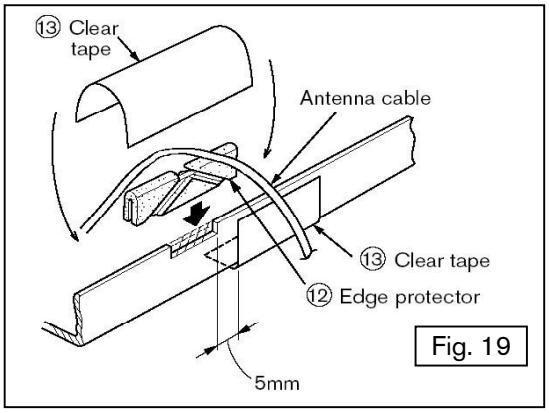


Fig. 19

⚠ CAUTION

- Make sure the antenna cable is seated in channel on both sides of the edge protector.
- In order to stop water from entering the trunk through the clear tape, the clear tape must have complete (100%) wet out 5 - 10mm (1/4" - 3/8") on all three sides of peripheral boundary and no wrinkles. Fig. 18
- Ensure the antenna cable is entering the clear tape at the radius corner.

(39) Position the clear tape above the notch without peeling off the liner to estimate the correct position for the small amount of butyl gum.

(40) Before applying the clear tape, apply a small amount of butyl gum to the bottom side of the antenna cable to hold it at the radius corner where the cable will enter the clear tape.

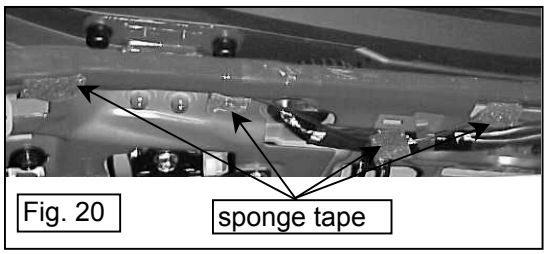


Fig. 20

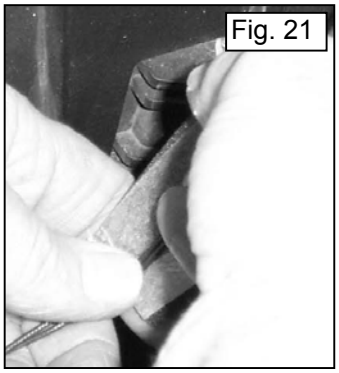


Fig. 21

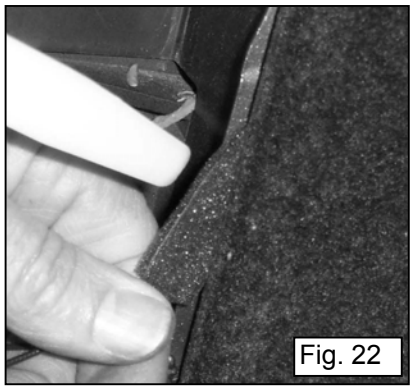


Fig. 22

(41) Do not peel off the entire clear tape protector. Pull the clear tape protector back 10mm (3/8"). Then apply 10mm clear tape to the horizontal flat surface of the gutter. Then slowly massage the clear tape with a PGF stick until you have reached the corners. Make sure that the tape does not wrinkle. Apply the same technique to the vertical surface. Then fold the tape over and apply the technique once more. This should leave a smooth surface on all three sides. Fig.18 & 19

(42) Apply butyl gun at both ends of the clear tape. The butyl gum should fit into both corners to cover the antenna cable and opposite end of clear tape. Fig. 18

⚠ CAUTION

Butyl gum must be placed across the cable for good water seal.

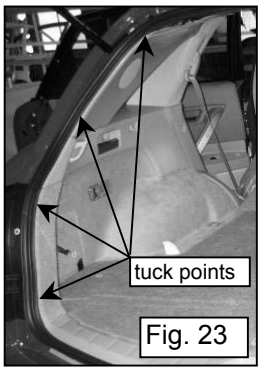
(43) Loop the antenna cable back towards driver's side and secure with four (4) pieces of sponge tape. Fig. 20

(44) Push roof rear garnish assembly back into position.

(45) Re-install cargo hatch hinge finisher.

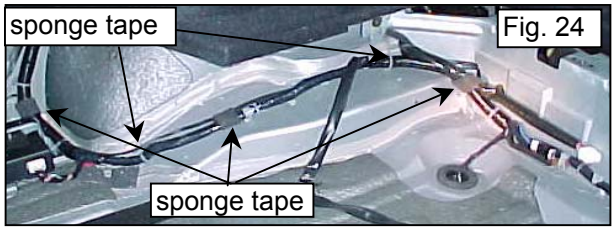
(46) Remove protective backing from sponge tape, position the antenna wire along centerline of sponge tape and fold the foam tape length wise about the antenna wire. Fig. 21

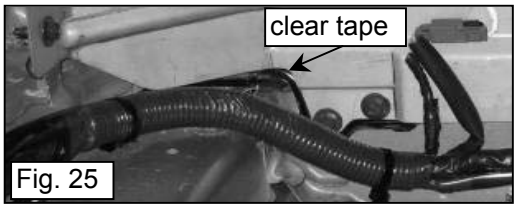
(47) Tuck the folded foam tape and wire between the trim panel and the weather-strip gutter. This procedure should be done at four (4) positions along the trim piece. Fig. 22 & 23



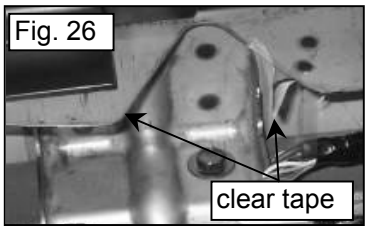
(48) Route the antenna cable to cargo area along existing harness. Fasten wires to harness with five (5) pieces of sponge tape. Fig. 24

(49) Place clear tape over edge of metal bracket on drivers side of spare tire storage area where antenna cable will cross against. Fig. 25



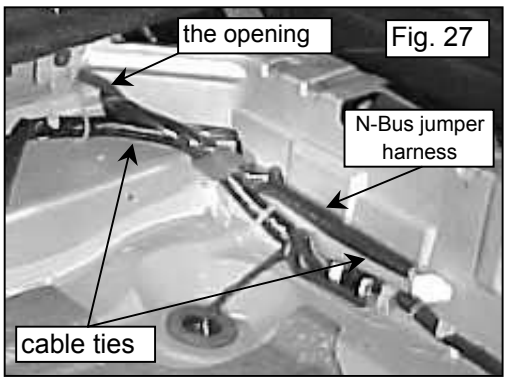


(50) Route antenna cable cross against clear tape, Fig. 25, towards tuner location (see page 2).



(51) Cut a piece of clear tape in half and place each half over the two (2) vertical metal brackets located directly above the tuner location, on the underside of the metal structure. Fig. 26

9. N-BUS CABLE INSTALLATION



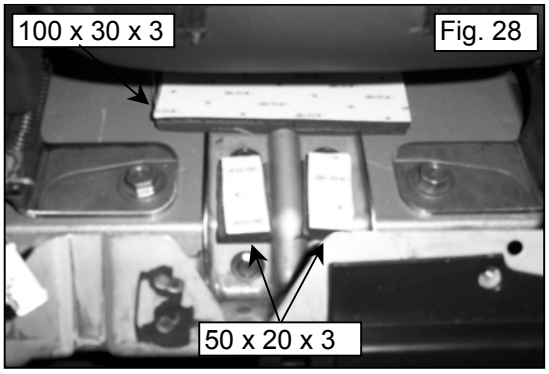
(1) Remove tape to release N-Bus harness connector.

(2) Connect end of short N-Bus jumper harness to the connector of the factory prewired N-bus harness.

(3) Route short N-Bus harness through the opening then back towards the center area of the rear seat.

(4) Secure this harness along the top of the existing vehicle harness with two (2) cable ties. Fig. 27

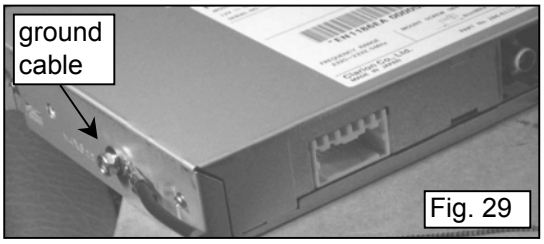
10. TUNER INSTALLATION AND WIRE CONNECTION



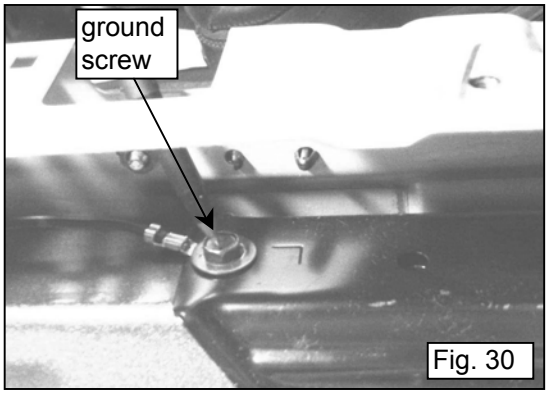
(1) Cut three (3) 100mm by 30mm spacers and six (6) 50mm by 20mm spacers from the double stick spacer (item # 5 in kit contents).

(2) Remove the protective backing from the spacers. Stack three of the 50mm by 20mm spacers together to form a triple thickness spacer. Repeat this process with the remaining 50mm by 20mm pieces and then the 100mm by 30mm pieces.

(3) Clean metal surface behind and under the center section of the rear seat with 50/50 alcohol/water solution where tuner will be attached.



(4) Position these triple thick spacers on the metal surface behind and under the center section of the rear seat. Fig. 28



⚠ CAUTION

Do not put spacers on top of bolt heads.

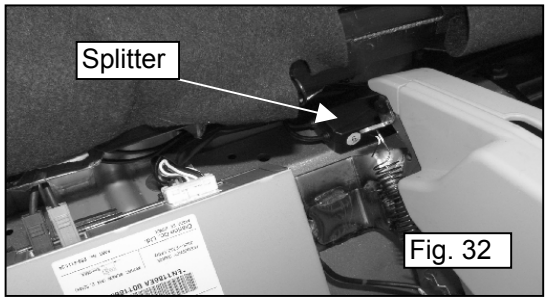
(5) Attach the ground cable to the tuner. Fig. 29

(6) Attach the other end of the ground cable to the metal surface behind the drivers side rear passenger seat by loosening the existing screw, sliding the terminal under it, and tightening it securely. Fig. 30

(7) Clean back side of tuner surface, where it is to be mounted to stacked spacers, with alcohol/water solution.

(8) Remove the protective backing from the spacers that are positioned on the metal center section and affix the tuner in position on them as low as possible. Fig. 31

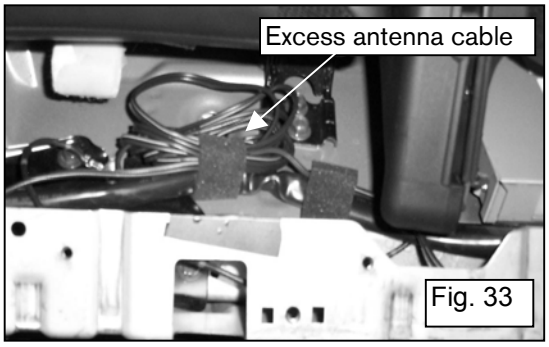
(9) Insert antenna splitter cable connectors into corresponding tuner terminals.



(10) Clean the metal frame with 50/50 alcohol/water solution where the splitter is to be attached. Fig. 32

(11) Peel off the tape protector from the splitter. Place the splitter on the metal frame with dual leads facing the passenger side of the vehicle. Secure in position by applying downward force with hand pressure. Fig. 32

(12) Leaving enough length for the splitter connection, neatly coil excess antenna cable to create a loop 100mm (4") in diameter.



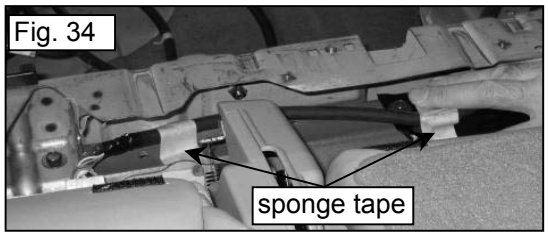
⚠ CAUTION

- Do not kink the antenna cable.
- Do not change diameter of the antenna loop.

(13) Connect the antenna cable connector to the antenna splitter.

(14) Secure antenna loop to the metal surface behind the drivers side rear passenger seat with sponge tape. Fig. 33

(15) Connect N-Bus cable connector to the corresponding tuner terminal.



(16) Secure antenna cables to N-Bus harness with sponge tape.

(17) Attach N-Bus harness to the metal surface behind the drivers side rear passenger seat with two (2) pieces of sponge tape. Fig. 34

11. OPERATION CHECK

(1) Connect the battery negative terminal.

(2) Turn vehicle ignition switch to the "ACC" position.

(3) Turn radio on then select satellite radio mode. Acquiring (Sirius) or loading (XM) will display for a while. If not, move vehicle to outside and try again.

(4) Tune to preview channel (XM: channel "1" / SIRIUS: channel "184") to make sure receiving preview channel correctly.

(5) Confirm proper audio operation. (AM / FM / TAPE / CD)

12. REINSTALLATION OF REMOVED PARTS

(1) Re-install all removed vehicle parts referring to the service manual for the vehicle.

(2) Clean interior of vehicle.

⚠ CAUTION

If roof rack cross bars are present the rear cross bar must be installed in the middle position. Failure to install cross bar in this position could lead to poor satellite radio performance due to satellite antenna interference.

13. FINAL INSPECTION

(1) Inspect the vehicle interior and exterior for damage.

(2) Confirm proper operation of vehicle systems including moonroof if equipped.

(3) Reset radio presets to the recorded settings.

(4) If equipped reset the moonroof per service manual requirement.